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	ENTRY	SESSION
FULL ESTIMATED COST	0.42	0.42

FILE 'MEDLINE' ENTERED AT 12:46:06 ON 01 MAR 2006

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=> s phosphodiesterase expression and candida and modification?  
 L1 0 PHOSPHODIESTERASE EXPRESSION AND CANDIDA AND MODIFICATION?

=> s phosphodiesterase expression and candida and alteration?  
 L2 0 PHOSPHODIESTERASE EXPRESSION AND CANDIDA AND ALTERATION?

=> s phosphodiesterase expression and candida  
 L3 0 PHOSPHODIESTERASE EXPRESSION AND CANDIDA

=> s phosphodiesterase gene and candida  
 L4 9 PHOSPHODIESTERASE GENE AND CANDIDA

=> s l4 and (mutant? or alter? or modifi? or variant?)  
 L5 9 L4 AND (MUTANT? OR ALTER? OR MODIFI? OR VARIANT?)

=> s l5 and (adhesive or invasive or proliferative)  
 L6 0 L5 AND (ADHESIVE OR INVASIVE OR PROLIFERATIVE)

=> s l5 and virulence?  
 L7 6 L5 AND VIRULENCE?

=> d l7 1-6 ibib ab

L7 ANSWER 1 OF 6 MEDLINE on STN  
 ACCESSION NUMBER: 2003537971 MEDLINE  
 DOCUMENT NUMBER: PubMed ID: 14617167  
 TITLE: Increased high-affinity phosphodiesterase PDE2 gene expression in germ tubes counteracts CAP1-dependent synthesis of cyclic AMP, limits hypha production and promotes virulence of Candida albicans.  
 AUTHOR: Bahn Yong-Sun; Staab Janet; Sundstrom Paula  
 CORPORATE SOURCE: Department of Molecular Virology, Immunology and Medical Genetics, The Ohio State University College of Medicine, 333 W. 10th Avenue, Columbus, OH 43210-1239, USA.  
 CONTRACT NUMBER: 1R01 AI 46608-02 (NIAID)  
 SOURCE: Molecular microbiology, (2003 Oct) Vol. 50, No. 2, pp. 391-409.  
 Journal code: 8712028. ISSN: 0950-382X.  
 PUB. COUNTRY: England: United Kingdom  
 DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)  
 LANGUAGE: English

FILE SEGMENT: Priority Journals  
ENTRY MONTH: 200408  
ENTRY DATE: Entered STN: 20031118  
Last Updated on STN: 20040824  
Entered Medline: 20040823

AB Frequent interconversion between yeasts, pseudohyphae and true hyphae is a hallmark of **Candida albicans** growth in mammalian tissues. The requirement for transient CAP1-dependent pulses of cAMP for generating true hyphae, Hwp1 and **virulence** raises questions about the role of yeast and pseudohyphal forms in the pathogenesis of candidiasis. In this study, hyperfilamentous **mutants**, limited in their capacity to produce buds, were generated by disrupting the high-affinity **phosphodiesterase gene PDE2**. Degradation of cAMP by the PDE2 gene product was confirmed by higher basal cAMP levels in the pde2/pde2 **mutant** and by accumulation of cAMP to levels permitting germ tube formation upon disrupting PDE2 in the cap1/cap1 **mutant**. Similar phenotypes of the *C. albicans* and *Saccharomyces cerevisiae* pde2/pde2 **mutants** were found, including sensitivity to nutritional starvation and exogenous cAMP and defective entry into stationary phase. Importantly, the hyperfilamentous **mutants** were as avirulent as hypofilamentous **mutants** in a systemic model of candidiasis. Growth in a multiplicity of forms appears to be a **virulence** attribute that is controlled by tight coupling of cAMP synthesis and degradation. Delayed increases in PDE2 mRNA in cAMP-deficient cap1/cap1 **mutants** during germ tube-inducing conditions suggested a mechanism of control involving cAMP-dependent induction of PDE2 mRNA.

L7 ANSWER 2 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2004:510779 HCAPLUS  
DOCUMENT NUMBER: 141:68138  
TITLE: Use of genes PDE2 and CAP1 for regulating bud-hypha transitions and cAMP levels in **Candida albicans** and **altering its virulence**  
INVENTOR(S): Sundstrom, Paula  
PATENT ASSIGNEE(S): USA  
SOURCE: U.S. Pat. Appl. Publ., 74 pp., Cont.-in-part of U.S. Ser. No. 801,774.  
CODEN: USXXCO  
DOCUMENT TYPE: Patent  
LANGUAGE: English  
FAMILY ACC. NUM. COUNT: 2  
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004120968	A1	20040624	US 2003-672074	20030929
US 2003104994	A1	20030605	US 2001-801774	20010309
US 6706688	B2	20040316		
US 2004121468	A1	20040624	US 2004-755399	20040113
WO 2005032469	A2	20050414	WO 2004-US31865	20040929
WO 2005032469	A3	20050728		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				

PRIORITY APPLN. INFO.: US 2001-801774 A2 20010309  
US 2003-672074 A 20030929

AB The infection of a mammalian host by a **Candida** microorganism can be prevented or treated through the **alteration** of the C. albicans homolog of the high affinity **phosphodiesterase gene** PDE2 and/or the adenylate cyclase-assocd. protein gene CAP1. These methods may be used in the identification, prevention or treatment of microbial infection of mammalian hosts such as immunocompromised or immunosuppressed humans, for example, those having AIDS or undergoing transplantation or anti-cancer therapy. The invention claims methods for regulating signaling of the cAMP-protein kinase A pathway that interfere with **virulence** properties of C. albicans, including adhesion to human cells, invasion of cells, degrading of extracellular matrix proteins, blocking of neutrophil oxygen radical prodn., and blocking of neutrophil degranulation. Methods of the invention also affect growth properties of C. albicans such as germ tube formation, response to nutrient starvation, entry into stationary phase, and prodn. of HWP1 (hyphal wall protein 1). Genes PDE2 and CAP1 may be regulated by **altering** cis-regulatory elements, interfering with DNA binding proteins that bind to the cis regulatory elements, or by overexpression. The invention also claims use of microarrays comprising PDE2 and CAP1 gene fragments to identify potential **virulence** genes or to compare gene expression in **mutant** C. albicans strains. In a murine model of candidiasis, mice were infected with hyperfilamentous pde2/pde2 or hypofilamentous cap1/cap1 knockout strains of **Candida** albicans. More than 80% of the mice infected with the **mutant** strains survived through 30 days of observation and there was no statistical difference between pde2/pde2 and cap1/cap1 **mutants**. In comparison, mice infected with wild-type C. albicans died within 11 days.

L7 ANSWER 3 OF 6 HCAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:876539 HCAPLUS

DOCUMENT NUMBER: 140:38614

TITLE: Increased high-affinity phosphodiesterase PDE2 gene expression in germ tubes counteracts CAP1-dependent synthesis of cyclic AMP, limits hypha production and promotes **virulence** of **Candida** albicans

AUTHOR(S): Bahn, Yong-sun; Staab, Janet; Sundstrom, Paula

CORPORATE SOURCE: Department of Molecular Virology, Immunology and Medical Genetics, The Ohio State University College of Medicine, Columbus, OH, 43210-1239, USA

SOURCE: Molecular Microbiology (2003), 50(2), 391-409

CODEN: MOMIEE; ISSN: 0950-382X

PUBLISHER: Blackwell Publishing Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Frequent interconversion between yeasts, pseudohyphae and true hyphae is a hallmark of **Candida** albicans growth in mammalian tissues. The requirement for transient CAP1-dependent pulses of cAMP for generating true hyphae, Hwp1 and **virulence** raises questions about the role of yeast and pseudohyphal forms in the pathogenesis of candidiasis. In this study, hyperfilamentous **mutants**, limited in their capacity to produce buds, were generated by disrupting the high-affinity **phosphodiesterase gene** PDE2. Degrading of cAMP by the PDE2 gene product was confirmed by higher basal cAMP levels in the pde2/pde2 **mutant** and by accumulation of cAMP to levels permitting germ tube formation upon disrupting PDE2 in the cap1/cap1 **mutant**. Similar phenotypes of the C. albicans and Saccharomyces cerevisiae pde2/pde2 **mutants** were found, including sensitivity to nutritional starvation and exogenous cAMP and defective entry into stationary phase. Importantly, the hyperfilamentous **mutants** were as avirulent as hypofilamentous **mutants** in a systemic model of candidiasis. Growth in a multiplicity of forms appears to be a **virulence** attribute that is controlled by tight coupling of cAMP synthesis and degrading. Delayed increases in PDE2 mRNA in cAMP-deficient cap1/cap1 **mutants** during germ tube-inducing conditions suggested

a mechanism of control involving cAMP-dependent induction of PDE2 mRNA.  
REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS  
RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 6 BIOSIS COPYRIGHT (c) 2006 The Thomson Corporation on STN  
ACCESSION NUMBER: 2003:537265 BIOSIS  
DOCUMENT NUMBER: PREV200300524352  
TITLE: Increased high-affinity phosphodiesterase PDE2 gene  
expression in germ tubes counteracts CAP1-dependent  
synthesis of cyclic AMP, limits hypha production and  
promotes **virulence** of **Candida albicans**.  
AUTHOR(S): Bahn, Yong-Sun; Staab, Janet; Sundstrom, Paula [Reprint  
Author]  
CORPORATE SOURCE: Department of Molecular Virology, Immunology and Medical  
Genetics, The Ohio State University College of Medicine,  
333 W. 10th Ave., Columbus, OH, 43210-1239, USA  
sundstrom.1@osu.edu  
SOURCE: Molecular Microbiology, (October 2003) Vol. 50, No. 2, pp.  
391-409. print.  
ISSN: 0950-382X (ISSN print).  
DOCUMENT TYPE: Article  
LANGUAGE: English  
ENTRY DATE: Entered STN: 12 Nov 2003  
Last Updated on STN: 12 Nov 2003

AB Frequent interconversion between yeasts, pseudohyphae and true hyphae is a  
hallmark of **Candida albicans** growth in mammalian tissues. The  
requirement for transient CAP1-dependent pulses of cAMP for generating  
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of yeast and pseudohyphal forms in the pathogenesis of candidiasis. In  
this study, hyperfilamentous **mutants**, limited in their capacity  
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**phosphodiesterase gene** PDE2. Degradation of cAMP by the  
PDE2 gene product was confirmed by higher basal cAMP levels in the  
pde2/pde2 **mutant** and by accumulation of cAMP to levels  
permitting germ tube formation upon disrupting PDE2 in the cap1/cap1  
**mutant**. Similar phenotypes of the *C. albicans* and *Saccharomyces*  
*cerevisiae* pde2/pde2 **mutants** were found, including sensitivity  
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stationary phase. Importantly, the hyperfilamentous **mutants**  
were as avirulent as hypofilamentous **mutants** in a systemic model  
of candidiasis. Growth in a multiplicity of forms appears to be a  
**virulence** attribute that is controlled by tight coupling of cAMP  
synthesis and degradation. Delayed increases in PDE2 mRNA in  
cAMP-deficient cap1/cap1 **mutants** during germ tube-inducing  
conditions suggested a mechanism of control involving cAMP-dependent  
induction of PDE2 mRNA.

L7 ANSWER 5 OF 6 SCISEARCH COPYRIGHT (c) 2006 The Thomson Corporation on  
STN  
ACCESSION NUMBER: 2003:922323 SCISEARCH  
THE GENUINE ARTICLE: 732TF  
TITLE: Increased high-affinity phosphodiesterase PDE2 gene  
expression in germ tubes counteracts CAP1-dependent  
synthesis of cyclic AMP, limits hypha production and  
promotes **virulence** of **Candida albicans**  
AUTHOR: Bahn Y S; Staab J; Sundstrom P (Reprint)  
CORPORATE SOURCE: Ohio State Univ, Coll Med, Dept Mol Virol Immunol & Med  
Genet, 333 W 10th Ave, Columbus, OH 43210 USA (Reprint);  
Ohio State Univ, Coll Med, Dept Mol Virol Immunol & Med  
Genet, Columbus, OH 43210 USA; Ohio State Univ, Dept  
Microbiol, Columbus, OH 43210 USA  
COUNTRY OF AUTHOR: USA  
SOURCE: MOLECULAR MICROBIOLOGY, (OCT 2003) Vol. 50, No. 2, pp.  
391-409.  
ISSN: 0950-382X.

PUBLISHER: BLACKWELL PUBLISHING LTD, 9600 GARSINGTON RD, OXFORD OX4  
2DG, OXON, ENGLAND.  
DOCUMENT TYPE: Article; Journal  
LANGUAGE: English  
REFERENCE COUNT: 61  
ENTRY DATE: Entered STN: 31 Oct 2003  
Last Updated on STN: 31 Oct 2003

\*ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS\*

AB Frequent interconversion between yeasts, pseudohyphae and true hyphae is a hallmark of *Candida albicans* growth in mammalian tissues. The requirement for transient CAP1-dependent pulses of cAMP for generating true hyphae, Hwp1 and virulence raises questions about the role of yeast and pseudohyphal forms in the pathogenesis of candidiasis. In this study, hyperfilamentous mutants, limited in their capacity to produce buds, were generated by disrupting the high-affinity phosphodiesterase gene PDE2. Degradation of cAMP by the PDE2 gene product was confirmed by higher basal cAMP levels in the pde2/pde2 mutant and by accumulation of cAMP to levels permitting germ tube formation upon disrupting PDE2 in the cap1/cap1 mutant. Similar phenotypes of the *C. albicans* and *Saccharomyces cerevisiae* pde2/pde2 mutants were found, including sensitivity to nutritional starvation and exogenous cAMP and defective entry into stationary phase. Importantly, the hyperfilamentous mutants were as avirulent as hypofilamentous mutants in a systemic model of candidiasis. Growth in a multiplicity of forms appears to be a virulence attribute that is controlled by tight coupling of cAMP synthesis and degradation. Delayed increases in PDE2 mRNA in cAMP-deficient cap1/cap1 mutants during germ tube-inducing conditions suggested a mechanism of control involving cAMP-dependent induction of PDE2 mRNA.

L7 ANSWER 6 OF 6 EMBASE COPYRIGHT (c) 2006 Elsevier B.V. All rights reserved on STN

ACCESSION NUMBER: 2003426633 EMBASE  
TITLE: Increased high-affinity phosphodiesterase PDE2 gene expression in germ tubes counteracts CAP1-dependent synthesis of cyclic AMP, limits hypha production and promotes virulence of *Candida albicans*.  
AUTHOR: Bahn Y.-S.; Staab J.; Sundstrom P.  
CORPORATE SOURCE: P. Sundstrom, Dept. of Microbiology and Immunology, Dartmouth Medical School, 214A Vail, Hanover, NH, United States. sundstrom.1@osu.edu  
SOURCE: Molecular Microbiology, (2003) Vol. 50, No. 2, pp. 391-409.

Refs: 61  
ISSN: 0950-382X CODEN: MOMIEE

COUNTRY: United Kingdom  
DOCUMENT TYPE: Journal; Article  
FILE SEGMENT: 004 Microbiology  
LANGUAGE: English  
SUMMARY LANGUAGE: English  
ENTRY DATE: Entered STN: 20031106  
Last Updated on STN: 20031106

AB Frequent interconversion between yeasts, pseudohyphae and true hyphae is a hallmark of *Candida albicans* growth in mammalian tissues. The requirement for transient CAP1-dependent pulses of cAMP for generating true hyphae, Hwp1 and virulence raises questions about the role of yeast and pseudohyphal forms in the pathogenesis of candidiasis. In this study, hyperfilamentous mutants, limited in their capacity to produce buds, were generated by disrupting the high-affinity phosphodiesterase gene PDE2. Degradation of cAMP by the PDE2 gene product was confirmed by higher basal cAMP levels in the pde2/pde2 mutant and by accumulation of cAMP to levels permitting germ tube formation upon disrupting PDE2 in the cap1/cap1 mutant. Similar phenotypes of the *C. albicans* and *Saccharomyces cerevisiae*

pde2/pde2 **mutants** were found, including sensitivity to nutritional starvation and exogenous cAMP and defective entry into stationary phase. Importantly, the hyperfilamentous **mutants** were as avirulent as hypofilamentous **mutants** in a systemic model of candidiasis. Growth in a multiplicity of forms appears to be a **virulence** attribute that is controlled by tight coupling of cAMP synthesis and degradation. Delayed increases in PDE2 mRNA in cAMP-deficient cap1/cap1 **mutants** during germ tube-inducing conditions suggested a mechanism of control involving cAMP-dependent induction of PDE2 mRNA.

=> d his

(FILE 'HOME' ENTERED AT 12:45:16 ON 01 MAR 2006)

FILE 'MEDLINE, HCAPLUS, BIOSIS, BIOTECHDS, SCISEARCH, EMBASE' ENTERED AT 12:46:06 ON 01 MAR 2006

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L1      0 S PHOSPHODIESTERASE EXPRESSION AND CANDIDA AND MODIFICATION?
L2      0 S PHOSPHODIESTERASE EXPRESSION AND CANDIDA AND ALTERATION?
L3      0 S PHOSPHODIESTERASE EXPRESSION AND CANDIDA
L4      9 S PHOSPHODIESTERASE GENE AND CANDIDA
L5      9 S L4 AND (MUTANT? OR ALTER? OR MODIFI? OR VARIANT?)
L6      0 S L5 AND (ADHESIVE OR INVASIVE OR PROLIFERATIVE)
L7      6 S L5 AND VIRULENCE?
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COST IN U.S. DOLLARS	SINCE FILE	TOTAL
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FULL ESTIMATED COST	35.70	36.12
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**Search Results - Record(s) 1 through 8 of 8 returned.**

☐ 1. Document ID: US 20050058998 A1

**Using default format because multiple data bases are involved.**

L1: Entry 1 of 8

File: PGPB

Mar 17, 2005

PGPUB-DOCUMENT-NUMBER: 20050058998

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20050058998 A1

TITLE: Novel pdes and uses thereof

PUBLICATION-DATE: March 17, 2005

**INVENTOR-INFORMATION:**

NAME	CITY	STATE	COUNTRY
Beavo, Joseph A.	Seattle	WA	US
Seebeck, Thomas	Ortschwaben	OR	CH
Soderling, Scott Haydn	Beaverton	CA	US
Rascon, Ana	Santa Fe	TN	US
Zoraghi, Roya	Nashville	CA	US
Kunz, Stefan	Bern	CA	CH
Gong, Kewen	Los Angeles		US
Glavas, Natalie	Daly City		US

US-CL-CURRENT: [435/6](#); [435/196](#), [435/320.1](#), [435/325](#), [435/69.1](#), [536/23.5](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KIMC	Draw. De
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☐ 2. Document ID: US 20040152106 A1

L1: Entry 2 of 8

File: PGPB

Aug 5, 2004

PGPUB-DOCUMENT-NUMBER: 20040152106

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040152106 A1

TITLE: Gene necessary for striatal function, uses thereof, and compounds for modulating same

PUBLICATION-DATE: August 5, 2004

**INVENTOR-INFORMATION:**

NAME	CITY	STATE	COUNTRY
Robertson, Harold A.	Halifax		CA
Denovan-Wright, Eileen M.	Halifax		CA

US-CL-CURRENT: 435/6; 435/21

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 3. Document ID: US 20040120968 A1

L1: Entry 3 of 8

File: PGPB

Jun 24, 2004

PGPUB-DOCUMENT-NUMBER: 20040120968  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20040120968 A1

TITLE: Methods for regulating bud-hypha transitions and cAMP levels in Candida albicans

PUBLICATION-DATE: June 24, 2004

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Sundstrom, Paula	Lebanon	NH	US

US-CL-CURRENT: 424/191.1; 435/254.22, 435/483

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 4. Document ID: US 20030044783 A1

L1: Entry 4 of 8

File: PGPB

Mar 6, 2003

PGPUB-DOCUMENT-NUMBER: 20030044783  
PGPUB-FILING-TYPE: new  
DOCUMENT-IDENTIFIER: US 20030044783 A1

TITLE: Human genes and gene expression products

PUBLICATION-DATE: March 6, 2003

## INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Williams, Lewis T.	Mill Valley	CA	US
Escobedo, Jaime	Alamo	CA	US
Innis, Michael A.	San Francisco	CA	US
Garcia, Pablo Dominguez	Kensington	CA	US
Sudduth-Klinger, Julie	Alameda	CA	US
Reinhard, Christoph	Oakland	CA	US
Randazzo, Filippo	San Francisco	CA	US



Kennedy, Giulia C.	Arlington	VA	US
Pot, David	Oakland	CA	US
Kassam, Altaf	Moraga	CA	US
Lamson, George	Palo Alto	CA	US
Drmanac, Radjoe	Hollister	CA	US
Dickson, Mark	Mountain View	CA	US
Labat, Ivan	Sunnyvale	CA	US
Jones, Lee William	Sunnyvale	CA	US
Stache-Crain, Birgit			US

US-CL-CURRENT: [435/6](#); [435/183](#), [435/320.1](#), [435/325](#), [435/69.1](#), [530/350](#), [530/388.1](#),  
[536/23.2](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawings
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☐ 5. Document ID: US 6242211 B1

L1: Entry 5 of 8

File: USPT

Jun 5, 2001

US-PAT-NO: 6242211

DOCUMENT-IDENTIFIER: US 6242211 B1

TITLE: Methods for generating and screening novel metabolic pathways

DATE-ISSUED: June 5, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Peterson; Todd C.	Coronado	CA		
Brian; Paul	San Diego	CA		

US-CL-CURRENT: [435/41](#); [435/320.1](#), [435/463](#), [435/468](#), [435/477](#), [435/91.41](#), [435/91.52](#),  
[536/23.5](#), [536/23.7](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Drawings
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☐ 6. Document ID: US 5824485 A

L1: Entry 6 of 8

File: USPT

Oct 20, 1998

US-PAT-NO: 5824485

DOCUMENT-IDENTIFIER: US 5824485 A

TITLE: Methods for generating and screening novel metabolic pathways

DATE-ISSUED: October 20, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
------	------	-------	----------	---------

Thompson; Katie A.	Del Mar	CA
Foster; Lyndon M.	Carlsbad	CA
Peterson; Todd C.	Chula Vista	CA
Nasby; Nicole Marie	San Diego	CA
Brian; Paul	San Diego	CA

US-CL-CURRENT: [435/6](#); [435/320.1](#), [435/455](#), [435/471](#), [435/489](#), [435/69.1](#), [435/91.41](#),  
[435/DIG.23](#), [435/DIG.26](#), [435/DIG.47](#), [435/DIG.5](#), [435/DIG.6](#), [435/DIG.7](#), [435/DIG.8](#),  
[536/23.1](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 7. Document ID: US 5783431 A

L1: Entry 7 of 8

File: USPT

Jul 21, 1998

US-PAT-NO: 5783431

DOCUMENT-IDENTIFIER: US 5783431 A

TITLE: Methods for generating and screening novel metabolic pathways

DATE-ISSUED: July 21, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Peterson; Todd C.	Chula Vista	CA		
Foster; Lyndon M.	Carlsbad	CA		
Brian; Paul	San Diego	CA		

US-CL-CURRENT: [435/455](#); [435/320.1](#), [435/463](#), [435/466](#), [435/471](#), [435/472](#), [435/474](#),  
[435/489](#), [536/23.1](#)

Full	Title	Citation	Front	Review	Classification	Date	Reference	Sequences	Attachments	Claims	KWIC	Draw. De
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☐ 8. Document ID: US 5442050 A

L1: Entry 8 of 8

File: USPT

Aug 15, 1995

US-PAT-NO: 5442050

DOCUMENT-IDENTIFIER: US 5442050 A

TITLE: Molecular cloning of antigens shared by rat- and human-derived *Pneumocystis carinii*

DATE-ISSUED: August 15, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fishman; Jay A.	Boston	MA		

## WEST Search History

DATE: Wednesday, March 01, 2006

Hide?	Set Name	Query	Hit Count
		<i>DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI; PLUR=YES; OP=ADJ</i>	
<input type="checkbox"/>	L4	L3 and altered expression	6
<input type="checkbox"/>	L3	L2 and virulence	42
<input type="checkbox"/>	L2	phosphodiesterase and candida	834
<input type="checkbox"/>	L1	phosphodiesterase gene and candida	8

END OF SEARCH HISTORY